



300N Draft 802.11n Wireless PCI Adapter Model # AWLH6045

User's Manual

Rev. 1.1

Table of Contents

1. Introduction
1.1 Package Contents
1.2 Features
2. Installation
2.1 Install Driver & Utility4
2.2 Verify Driver Installation
3. Configure the PCI Adapter
4. Configure the Wireless Utility
4.1 Link Information
4.2 AP List
4.3 Configure Encryption Settings20
4.4 Profile Setting
4.5 Static IP Setting
4.6 About
Appendix A – Features
Appendix B – Information
Technical Support

1. Introduction

Congratulations on your purchase of the 300N Draft 802.11n Wireless PCI Adapter. The 300N PCI Adapter provides wireless data rate of up to 300 Mbps* when used with other AirLink101[™] 300N wireless products. The high bandwidth combined with extended wireless coverage delivers fast and reliable connection for all of your networking applications.

A full range of security features such as WEP, WPA-PSK, and WPA2-PSK provide the highest level of wireless network security. The bundled Wireless Utility allows you to set up the adapter with an easy-to-use user interface. Best of all the 300N PCI Adapter works with 802.11g and 802.11b network devices ensuring compatibility with your existing wireless products.

1.1 Package Contents

Before you begin the installation, please check the items of your package. The package should include the following items:

- Wireless PCI Adapter
- Quick Installation Guide
- Installation CD (Driver/Utility/Manual)

1.2 Features

- Industry's highest wireless data rate of up to 300 Mbps* with IEEE 802.11n draft specification version 1.0.
- 3 antennas for wider coverage and continuous connectivity eliminates dead spots
- 64-bit/128-bit WEP encryption, Pre-shared Key (PSK), and Wi-Fi Protected Access (WPA2) and WPA support provide full protection for your wireless connection
- Higher data rate increases the reliability and stability of wireless connections
- Great for environments with higher wireless data traffic requirements
- Fully backward-compatible with 802.11b/g devices
- Works best with other AirLink101[™] 300N wireless products

2. Installation

2.1 Install Driver & Utility

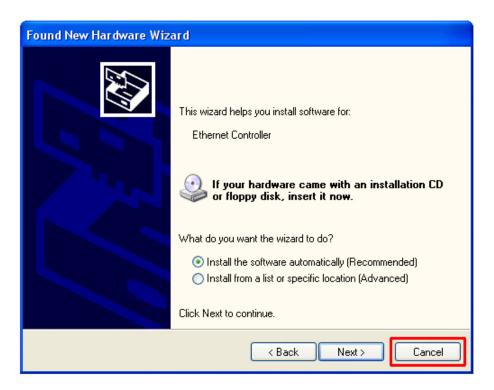
This section provides instructions on how to install the **300N Draft 802.11n Wireless PCI Adapter**. The driver is installed along with the utility.

Note: Be sure to turn off your computer before inserting the Adapter.

For Windows 98SE and ME users, you may be prompted to insert the Windows 98SE or ME CD during the driver installation. Be sure to have your Windows 98SE or ME CD ready.

Step 1 Insert the PCI adapter into an available PCI slot and turn on your computer.

Step 2 After turning on the computer, Windows will launch the **Found New Hardware Wizard**. The Found New Hardware Wizard appears differently depending on your operating system. Click **Cancel** to quit the wizard and insert the Installation CD into your CD drive.

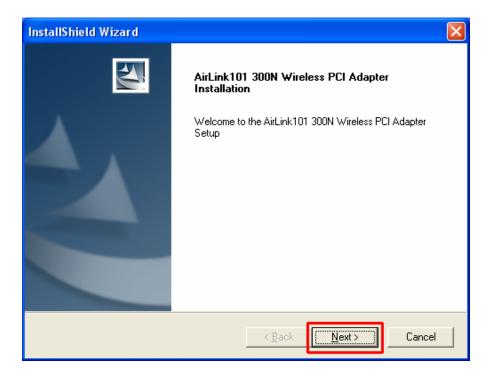


Step 3 The Autorun screen will pop up. Select Install Driver and Utility from the menu.



Note: If the Autorun screen doesn't appear automatically go to **Start**, **Run**, and type **D:\Utility\Setup.exe** (where **D** is the letter of your CD drive) and click **OK**.

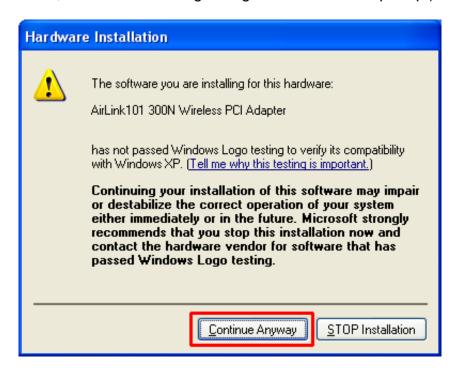
Step 4 Click Next at the welcome screen.



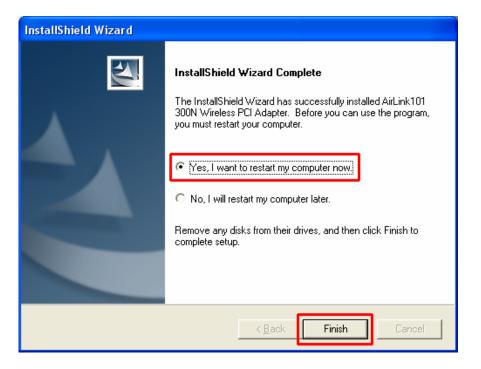
Step 5 Click Next to accept the default destination folder.

InstallShield Wizard	×
Choose Destination Location	124
Setup will install AirLink101 300N Wireless PCI Adapter in the following f	older.
To install to this folder, click Next. To install to a different folder, click Bro another folder.	wse and select
Destination Folder C:\Program Files\AirLink101\AWLH6045	Browse
InstallShield	Cancel

Step 6 Click **Continue Anyway** at the Windows Logo Screen. (For Windows 2000, click **Yes** at the Digital Signature Not Found prompt).



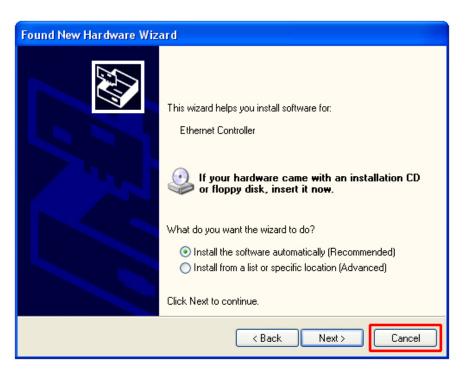
Step 7 Verify **Yes, I want to restart my computer now** is selected and click **Finish** to restart your computer.



Step 8 After the computer is restarted, Windows will ask to connect to Windows Update, select **No, not this time** and click **Next**.

Found New Hardware Wizard				
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and every time I connect a device No. not this time Click Next to continue.			
	< Back Next > Cancel			

Step 9 Select Install the software automatically and click Next.

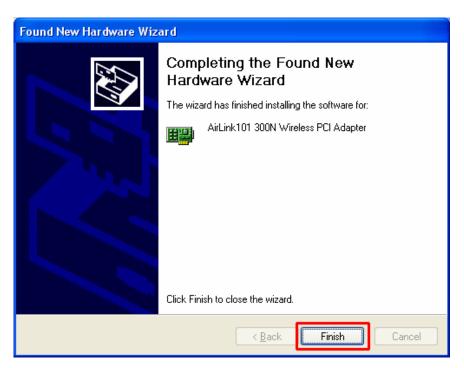


Step 10 Click Continue Anyway at the Windows Logo Screen.

(For Windows 2000, click **Yes** at the Digital Signature Not Found prompt). For Windows 98SE and ME, select **Search for the best driver for your device** and click **Next**. Verify all the check boxes are checked and click **Next**.

Hardwa	re Installation
<u>.</u>	The software you are installing for this hardware: AirLink101 300N Wireless PCI Adapter has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation

Step 11 Click **Finish**. (Restart the computer for Windows 98SE and ME).



2.2 Verify Driver Installation

To verify if the driver has been installed successfully, please perform the following steps.

Step 1 Right-click on My Computer from your desktop and select Properties.

Step 2 Select the **Device Manager** tab. (For Windows 2000/XP, select the **Hardware tab** first then click on **Device Manager**).

System Properties
System Restore Automatic Updates Remote General Computer Name Hardware Advanced
Device Manager The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device. Device Manager
Drivers Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers. Driver Signing Windows Update
Hardware Profiles Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK Cancel Apply

Step 3 Expand **Network adapters** from the list and verify that **AirLink101 300N Wireless PCI Adapter** is listed and no yellow question mark is beside it.

By Device Manager	
<u>File Action View H</u> elp	
$\leftarrow \rightarrow \blacksquare \Rightarrow \Rightarrow \Rightarrow$	
Computer Computer Computer Disk drives Display adapters DVD/CD-ROM drives Floppy disk controllers Floppy disk drives DE ATA/ATAPI controllers E IDE ATA/ATAPI controllers Keyboards Mice and other pointing devices Monitors Mice and other pointing devices Monitors Mice and other pointing devices Monitors Processors Processors Sound, video and game controllers Storage volumes System devices	
⊡ ଙ	

If **AirLink101 300N Wireless PCI Adapter** is not listed, or you see a yellow question mark beside it, please re-install the driver again.

3. Configure the PCI Adapter

This section describes how to connect your **300N Wireless PCI Adapter** to a wireless network.

Note to Windows XP Users:

You must disable the Wireless Zero Configuration Utility in order to use the bundled Wireless Utility. Please follow the steps below to disable XP's wireless utility.

Step 1 Double-click on the **Wireless Network Connection Icon** in the system tray and then click on **Properties** or **Advanced**.



Step 2 Go to the **Wireless Networks** tab, uncheck the **"Use Windows to configure my wireless network settings"** check box and click **OK**.

	1	
🕹 Wireless Net	ork Connection 12 Properties	?×
General Wireless	Networks Advanced	
Use Windows	to configure my wireless network settings	
Available netwo	rks:	
To connect to a	an available network, click Configure.	
2 i wireless	Configu	re
108AP	Refres	h
Preferred netwo	rks:	
Automatically co below:	onnect to available networks in the order lis	ted
	Move u	P
	Move do	wn
Add	Remove Properties	
Learn about <u>sett</u> configuration.	ing up wireless network Advar	nced
		ancel

To open the PCI Adapter's utility go to **Start > (All) Programs > AirLink101 300N Wireless PCI Adapter > AirLink101 300N Wireless PCI Adapter**

	1	Programs •	6	Accessories	F		
	•••••	Trograms	6	AirLink101 300N Wireless CardBus Adapter	۲.	₫	AirLink101 300N Wireless CardBus Adapter
	Ì	Documents •	ſ		Î	₽	Uninstall
ional	<u>v</u> -	Settings •	·				
fessio	\mathbf{P}	Search •					
Prof	?	Help and Support					
s XP		Run					
indows	P	Log Off Phoebe					
Ň	0	Turn Off Computer					

Step 1 Go to the **AP List** tab, select the **SSID** (Network Name) of the wireless network you wish to connect to, and click **Connect**.

Link Information AP List	Profile Setting About	⊠ Wireless Monitor
Network Name Band Signal	Site Information Network Type : Access Point Channel : 6 Encryption : Off Surveyed at : 00:14:6C:DF:F3:D6	
Connect Refresh		

Step 2 If encryption is not enabled for the selected access point / router, skip to step 6. Otherwise, enter a **Profile Name** for your wireless setting and click **Next**.

Antra Wir	eless Monit	or	\times
F	Profile Setting		
Profile	Name : default		
			1
			_
			_
Back	Next	Exit	
Back	Next	Exit	

Step 3 Verify that the **Network Name** matches the **SSID** of your wireless network and click **Next**.

And Loga	Wireles	s Monitor	\times
	Profile	Setting	
	Network Name :	default	
	Network Type :	🗼 Access Point 📃 💌	
	Transfer Rate :	🖨 Automatic 🔹 💌	
			1
			_
			_
			_
	ack N	ext Exit	

Step 4 Select the proper encryption setting for your wireless router or access point from the drop-down menu and click **Next**.

\mathbf{X}
-
Exit

Step 5 Follow the on-screen instructions to complete the encryption settings. Click **Complete** when finished.

Step 6 You should see a blue circle around the antenna icon indicating a valid connection.

		X
Link Information AP List	Profile Setting About	Wireless Monitor
Network Name Band Signal	Site Information Network Type : Access Point Channel : 6 Encryption : Off Surveyed at : 00:14:6C:DF:F3:D6	R P
Connect Refresh		

Step 7 Go to the **Link Information** tab and click on the **More** button.



Step 8 Verify that you are receiving adequate Signal Strength and Link Quality and that you have been assigned a valid IP address (instead of all 0's).

Aug Wireles	s Monitor	\times		
- Wireless Information				
Connect To Network :	default [00:14:A5:0C:9A:1A]			
Network Type :	Access Point			
Channel :	6			
Encryption :	Off			
Link Speed :	300 Mbits / sec			
Signal Strength	Link Quality			
IP Information				
DHCP Status :	Automatic/DHCP			
Current IP :	192.168.1.115			
Subnet Mask :	255.255.255.0			
Default Gateway :	192.168.1.1			
DNS Server :	192.168.1.1			
	Back			

If you do not have adequate Signal Strength, try re-orienting the Access Point and/or the antennas of PCI Adapter to get a better reception.

4. Configure the Wireless Utility

This section describes the various functions of the Wireless Utility that you can configure, including the settings of wireless encryption.

4.1 Link Information

The **Link Information** tab shows the current profile in use as well as details of the current network connection.

Current Profile String: Image: A constrained Image: A constrained <th></th> <th>Profile Setting</th> <th>Wireless Monitor</th>		Profile Setting	Wireless Monitor
	Link Information AP List	_	Wireless Monitor

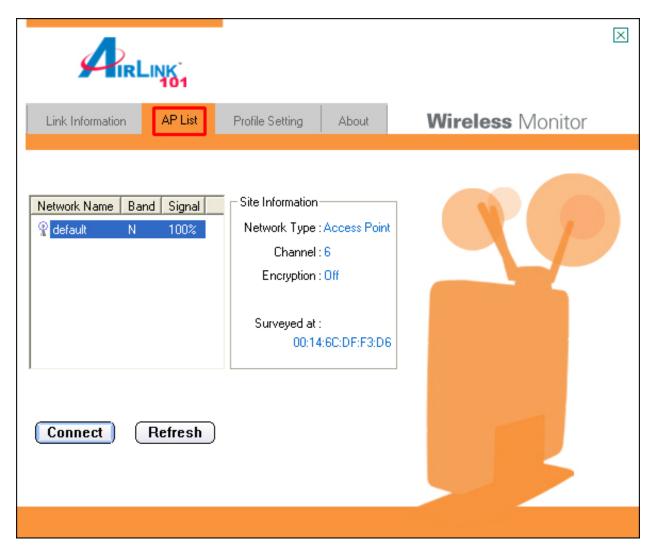
Click on the **More** button to see the details of the current network connection.

A Wireless	s Monitor	\times
_ Wireless Information		_
Connect To Network :	default [00:14:A5:0C:9A:1A]	
Network Type :	Access Point	
Channel :	6	
Encryption :	Off	
Link Speed :	12 Mbits / sec	
Signal Strength	Link Quality	
IP Information		
DHCP Status :	Automatic/DHCP	
Current IP :	192.168.1.115	
Subnet Mask :	255.255.255.0	
Default Gateway :	192.168.1.1	
DNS Server :	192.168.1.1	
	Back	

The Wireless Information displays the current wireless network you are connected to as well as various other statuses such as the Signal Strength and your assigned IP address.

4.2 AP List

The **AP List** tab displays all the available Access Points detected by the PCI Adapter. Simply select the desired Access Point you wish to connect to and click **Connect**.



The **Site Information** displays a list of status for the selected AP, including the Channel number and the Encryption status.

4.3 Configure Encryption Settings

This section describes how to configure encryption settings for the **PCI Adapter**.

Note: The encryption settings you set for the Adapter must match the same settings of the Access Point/Wireless Router; otherwise, the encryption will not work properly.

Step 1 From the **AP List** tab, select the Access Point/Wireless Router you want to connect to and click **Connect**.

		\boxtimes
Link Information AP List	Profile Setting About	Wireless Monitor
Network Name Band Signal Preside fault N 100%	Cite Information Network Type : Access Point Channel : 6 Encryption : Off Surveyed at : 00:14:6C:DF:F3:D6	29
Connect Refresh		

Step 2 Verify the Profile Name is correct and click Next.

	Wireless Monitor	\times
	Profile Setting	
	Profile Name : default	
Ba	ack Next Exit	

Analysi Wireless	s Monitor 🛛 🖂
Profile	Setting
Network Name :	default
Network Type :	🗼 Access Point 📃
Transfer Rate :	🖨 Automatic 📃 🔽
Back	ext Exit

Step 3 Verify the Network Name (SSID) is correct and click Next.

For WEP Settings:

WEP Step 4 Select the appropriate Authentication Mode and Encryption settings and click Next.

	Wireless Monitor	\times
	Profile Setting	
	Authentication Mode : 📄 Open System 💌	
	Encryption : 🔒 64 bits	
		'
	Back Next Exit	

WEP Step 5 Select the appropriate Input Method, Key (password), Key Index, and click Next.

Aug Wireles	s Monitor 🛛 🛛
Profile	Setting
Input Method :	Hex Hexadecimal (0-9, A-F 💌
Key:	
Key Index :	⇔ (1) ▼
	nut Evit
Back	ext Exit

WEP Step 6 Click Complete to finish the settings.

And Loga	Wireless Monitor	\times
	Profile Setting	
	IP Setting : 📳 Original Setting	-
		_
(Ba	ock Complete Exit	

For WPA-PSK and WPA2-PSK Settings:

	Wireless Monitor	\times
	Profile Setting	
	Authentication Mode :	
	Input Method : 🔒 TKIP 💌	
		•
		3
		3
		3
		1
		3
	Back Next Exit	
		_

WPA Step 4 Select WPA-PSK or WPA2-PSK and the appropriate Input Method and click Next.

WPA Step 5 Enter the Passphrase and click Next.

And Loga	Wirele	ss Monit	or	\times
	Profile	e Setting		
	Кеу			
				┛╽
Ba	ick	Next	Exit	

WPA Step 6 Click Complete to finish the settings.

	Wi	reless	Monit 🛛	or	\times
	I	Profile S	Setting		
	IP	Setting :	📲 Origina	al Setting	•
Ba	ck)	Com	plete)	Exit	
<u> </u>				·	

Step 7 You should see a blue circle around the antenna icon indicating a valid connection. A lock icon beside the antenna indicates the connection is encrypted.

Link Information AP List	Profile Setting About	⊠ Wireless Monitor
Network Name Band Signal	Site Information Network Type : Access Point Channel : 6 Encryption : Off Surveyed at : 00:14:6C:DF:F3:D6	

4.4 Profile Setting

The **Profile Setting** tab lists all the profiles you have created. You can create new profiles for different network environments.

			X	3
Link Information AP List	Profile Setting	About	Wireless Monitor	
Profile Name Network Name	Site Information Network Type : Channel : Encryption : IP Setting : Delete	6 Off		

To add a new profile, follow the steps below:

Step 1 Click on the **Add** button.

	.INK 101			X
Link Information	AP List	Profile Setting	About	Wireless Monitor
Profile Name Ne	twork Name	Site Information Network Type Channel Encryption IP Setting	:- :- :-	

Step 2 Enter a name for your new profile and click **Next**.

	Wir	eless	Moni	tor	2	\times
	F	Profile S	etting			
	Profile	Name :	Office			
						100000
						100000
						000000
						100000
						100000
Ba	ck	N	ext	Ex	it	

Step 3 Enter the SSID (Network Name) of the wireless network you want to connect to and click **Next**.

And Logic	Wireless	Monitor	\times
	Profile S	Getting	
	Network Name :	Office_AP	
	Network Type :	👔 Access Point 📃 💌	
	Transfer Rate :	Automatic 🔹	
			1
		ext Exit	

And Logar	Wireles	s Monite	or	\times
	Profile	Setting		
	Authentication Mode :	WPA-P	'SK 🔽	
	Input Method :	A TKIP	-	
				-
	Back N	ext)	Exit	
				_

Step 4 Configure any encryption setting if required and click **Next**.

Step 5 Click **Complete** to finish the profile setting.

	Wireless Monitor	\times
	Profile Setting	
	IP Setting : 🖳 Original Setting	•
Ba	ack Complete Exit	

Step 6 Your new profile will be listed in the Profile List.

		\boxtimes
Link Information AP List	Profile Setting About	Wireless Monitor
Profile Name Network Name Diffice Office_AP Add Edit	Site Information Network Type : - Channel : - Encryption : - IP Setting : - Delete Connect	

Step 7 You can quickly select which profile you want to use from the **Link Information** tab depending on your network environments without having to reconfigure the settings each time.

	INK [°] 101			\boxtimes
Link Information	AP List	Profile Setting	About	Wireless Monitor
Current Profile	X	ANY Office ANY	More	

4.5 Static IP Setting

To change the IP address of the wireless adapter to Static IP, follow the steps below:

Step 1 On the last step of *4.4 Profile Setting*, under IP setting, select **New Setting** and click **Next**.

Anlag	Wireles	s Monitor	D	N
	Profile	Setting		٦
	IP Setting :	📲 New Setting	-	
Ba	ick N	ext	Exit	

Step 2 Select Static.

AnLaga	Wireles	s Monitor	\times
	Profile	Setting	
	DHCP Status :	Static	
	IP Address :		
	Subnet Mask :	255.255.255.0	
	Default Gateway :		
	DNS Server :		
Bac	k Cor	nplete Exit	

Step 3 Enter in the information and click **Complete** to finish the setting.

4.6 About

The About tab shows the Utility, Driver, and Firmware version as well as the MAC address of the **300N Wireless PCI Adapter**.

			\times
Link Information AP List	Profile Setting	About	Wireless Monitor
Utility Version : Driver Version : Firmware Version : Address :	2.1.2.13		

Appendix A – Features

Frequency Band

• 2.4~2.5 GHz

Standards

- IEEE 802.11b / 802.11g
- Draft 802.11n

Interface

• PCI

Antenna type

 3 external antennas with 2.6 dBi(A), 3.6 dBi(B), 0.9dBi(C) Gain

Security

- WPA-PSK (TKIP)
- WPA2-PSK (AES)

Transmitted Power

- 802.11b: 17 dBm@1TX; 20 dBm@2TX
- 802.11g: 13 dBm@1TX; 16 dBm@2TX
- Draft 11n: 13 dBm@1TX; 16 dBm@2TX

Data Rate

- 300*Mbps
- 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1Mbps auto fallback

System Requirements

- 300 MHz processor or better
- 64 MB RAM
- Available PCI slot

OS Compatibility

• Windows 98SE/ME/2000/XP

Weight

• 181g

Dimensions

• 120 x 65 x 6mm (L x W x H)

Temperature

- Operating: 0°C to 60°C
- Storage: -20°C to 80°C

Humidity

- Operating: 10% to 80% Non-Condensing
- Storage: 5% to 90% Non-Condensing

Warranty

• Limited 1-year warranty

Safety Approvals

• FCC, CE

UPC Code

• 6 58729 08 143 7

Appendix B – Information

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

European Union Notice:

Radio products with the CE marking comply with the R&TTE Directive (1999/5/EC), the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN 60950 Product Safety
- EN 300 328 Technical requirement for radio equipment
- EN 301 489-1/-17 General EMC requirements for radio equipment

Technical Support

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

^{*}Theoretical maximum wireless signal rate derived from IEEE 802.11g standard and IEEE 802.11n draft specification version 1.0. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate. Specifications are subject to change without notice. All products and trademarks are the property of their respective owners. Copyright ©2006 AirLink101TM